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| 09/614,231 | 07/12/2000 | Fritz Gfeller | SZ998-038 | 1820 |

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| EXAMINER | |
|---|---|
| TU, CHRISTINE TRINH LE | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2133 | |

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/614,231 | GFELLER ET AL. | |
| | Examiner | Art Unit | |
| | Christine T. Tu | 2133 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/27/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## *Specification*

1. The disclosure is objected to because of the following informalities: on page 1 of the last paragraph, the phrase "The application EP 0 405 3**48** A2" should be replaced with –The application EP 0 405 3**84** A2--.

Appropriate correction is required.

## *Claim Objections*

2. Claims 1, 3, 6, 12, 14, 17 and 19 are objected to because of the following informalities:

Claims 3, 6, 12, 14, 19:

The dashes " – " should be deleted at the beginning of each element (in the apparatus claims) or each step (in the method claims).

Claim 1:

At lines 3 and 14, the term "symbols" should be replaced with –information units—because the term "information units" has been used (at lines 6 & 8) throughout the claim. In other words, consistency of a term should be used throughout the claim.

At line 8, the word "received" (second appearance) should be deleted.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. Claims 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 (depends on claim **15**):

This claim should be depend on claim 16 because the term "the data rate" at line 2 refers to the data rate of claim 16. In other words, no data rate is being previously recited in claims 12 or 15.

Claim 18:

What is being carried out by means of a computer program?

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (5,825,761 and Tanaka hereinafter) in view of Obuchi et al. (5,937,005 and (Obuchi hereinafter).

Claims 1, 5 and 20:

Tanaka teaches the invention substantially as claimed. Tanaka discloses (figure 1) that a mobile radio communication equipment (10) is constructed with a bit error rate detector (4) and a transmission rate determiner (5). The bit error rate detector (4) detects a bit error rate for regulating the transmission rate on the basis of a frame sync data. The transmission rate determiner sets the initial value of the transmission rate on the basis of the RSSI level from the RSSI detector (2) and determines an optical transmission rate by regulating the initial value on the basis of the bit error rate from the bit error rate detector (4) (figure 1, column 3 lines 17-21 & 33-43).

Tanaka also teaches (figure 2—a flowchart) the bit error rate detector (4) detects bit error rate A of the frame sync data (S105). Then the bit error rate detector (4) ranks the detected bit error rate (S106) by comparing the detected bit error rate A with predetermined first and second threshold values N and M. Base on the ranking for the bit error rate A, the transmission rate will be set as it is or will be adjusted by increasing or decreasing the transmission rate (column 4 lines 27-59).

Tanaka does not teach the counting a total number of received information units or error number of the received invalid information units or dividing the error number by the total number. Obuchi, however, teaches that a receiver system having counter (14)

for counting error detect pulses while another counter (15) for counting the number of bits have been received as a reception signal, a divider (16) for dividing the count value of the counter (14) by that of the counter (15) and providing an output as a bit error rate. Obuchi's number of the reception signals is a multiple of 2 [receiver #1 (11) and receiver #2 (12)]. Obuchi's divider (16) further divides the quotient by two (figure 2, column 5 line 65-column 6 line 6).

It would have been obvious to one skilled in the art at the time the invention was made to realize that Tanaka's bit error rate detector (4) would have been comprised of a counter for counting error detect pulses, another counter for counting the number of bits have been received reception signal and a divider for dividing the count value of the error detect pulses by the number of the bits of the received reception signal (as taught by Obuchi). One having ordinary skill in the art would be motivated to do so because Tanaka suggests the generating of a bit error rate [by the bit error rate detector (4)].

Claim 2:

Tanaka teaches the processing from steps S104 to S111 (which including updating/setting new transmission rate) is repeated (figure 2, column 4 lines 65-column 5 line 4).

Claim 7:

Tanaka's control portion (6) controls the bit error rate detector (4) and the transmission rate determiner (5) (figure 1, column 3 lines 42-45).

Claim 8:

Obuchi teaches a counter/divider (31) for counting error detection pulses and obtaining an error rate (figure 6A, column 7 lines 6-11).

Claim 9:

Tanaka does not explicitly teach the transmission rate determiner (5) comprising a comparator or a derivation unit. Tanaka, however, teaches a feature of comparing the detected bit error rate A with threshold values N and M to rank the bit error rate, and a feature of setting new transmission rate based on the rank of the bit error rate (column 4 lines 30-64). It would have been obvious to one skilled in the art to realize that Tanaka's transmission rate determiner (5) would have been comprised of a comparator and a derivation unit. One having ordinary skill in the art would be motivated to do so because a comparator would have been necessary for comparing the detected bit error rate A with the threshold values N and M in order to rank the bit error rate, and a derivation unit would have been necessary for setting a new transmission rate based on the rank of the bit error rate.

Claim 10:

Obuchi does not explicitly teach the at least for preloadable thresholds and the data rate is 4, 2, 1, 0.5 or 0.25 Mb/s. Obuchi, however, teaches the two threshold values N and M and the transmission rate is 4800, 9600 or 2400 bps (column 4 lines 30-32 & 60-64). It would have been obvious to one having ordinary skill in the art at the

time the invention was made to realize the number of thresholds being used and the particular transmission rate(s) being set would have been an obvious design choice of the art. Such choice would depend on the necessity of the data transmission rate/speed, which would provide efficiency of information management.

Claim 11:

Tanaka teaches the mobile radio communication equipment (10) has an interface function for an infra radio station and transmits/receives an electric field level of the radio signal to/from a base station (20) (figure 1, column 3 lines 23-30).

Claim 3:

Tanaka teaches the invention substantially as claimed. Tanaka discloses (figure 1) that a mobile radio communication equipment (10) is constructed with a bit error rate detector (4) and a transmission rate determiner (5). The bit error rate detector (4) detects a bit error rate for regulating the transmission rate on the basis of a frame sync data. The transmission rate determiner sets the initial value of the transmission rate on the basis of the RSSI level from the RSSI detector (2) and determines an optical transmission rate by regulating the initial value on the basis of the bit error rate from the bit error rate detector (4) (figure 1, column 3 lines 17-21 & 33-43).

Tanaka also teaches (figure 2—a flowchart) the bit error rate detector (4) detects bit error rate A of the frame sync data (S105). Then the bit error rate detector (4) ranks the detected bit error rate (S106) by comparing the detected bit error rate A with

predetermined first and second threshold values N and M. Base on the ranking for the bit error rate A, the transmission rate will be set as it is or will be adjusted by increasing or decreasing the transmission rate (column 4 lines 27-59).

Tanaka does not teach the counting a total number of received information units or error number of the received invalid information units or dividing the error number by the total number. Obuchi, however, teaches that a receiver system having counter (14) for counting error detect pulses while another counter (15) for counting the number of bits have been received as a reception signal, a divider (16) for dividing the count value of the counter (14) by that of the counter (15) and providing an output as a bit error rate. Obuchi's number of the reception signals is a multiple of 2 [receiver #1 (11) and receiver #2 (12)] (figure 2, column 5 line 65-column 6 line 6).

It would have been obvious to one skilled in the art at the time the invention was made to realize that Tanaka's bit error rate detector (4) would have been comprised of a counter for counting error detect pulses, another counter for counting the number of bits have been received reception signal and a divider for dividing the count value of the error detect pulses by the number of the bits of the received reception signal (as taught by Obuchi). One having ordinary skill in the art would be motivated to do so because Tanaka suggests the generating of a bit error rate [by the bit error rate detector (4)].

Claim 4:

Obuchi's divider (16) further divides the quotient by two (column 6 lines 1-5).

Claim 6:

Tanaka teaches the invention substantially as claimed. Tanaka discloses (figure 1) that a mobile radio communication equipment (10) is constructed with a bit error rate detector (4) and a transmission rate determiner (5). The bit error rate detector (4) detects a bit error rate for regulating the transmission rate on the basis of a frame sync data. The transmission rate determiner sets the initial value of the transmission rate on the basis of the RSSI level from the RSSI detector (2)and determines an optical transmission rate by regulating the initial value on the basis of the bit error rate from the bit error rate detector (4) (figure 1, column 3 lines 17-21 & 33-43).

Tanaka also teaches (figure 2—a flowchart) the bit error rate detector (4) detects bit error rate A of the frame sync data (S105). Then the bit error rate detector (4) ranks the detected bit error rate (S106) by comparing the detected bit error rate A with predetermined first and second threshold values N and M. Base on the ranking for the bit error rate A, the transmission rate will be set as it is or will be adjusted by increasing or decreasing the transmission rate (column 4 lines 27-59).

Tanaka does not teach the counting a total number of received information units or error number of the received invalid information units or dividing the error number by the total number. Obuchi, however, teaches that a receiver system having counter (14) for counting error detect pulses while another counter (15) for counting the number of bits have been received as a reception signal, a divider (16) for dividing the count value of the counter (14) by that of the counter (15) and providing an output as a bit error rate. Obuchi also teaches memories (96 & 97) each comprises storage locations will work

just as shift registers (figures 2 & 24, column 5 line 65-column 6 line 6, column 12 lines 39-44).

It would have been obvious to one skilled in the art at the time the invention was made to realize that Tanaka's bit error rate detector (4) would have been comprised of a counter for counting error detect pulses, another counter for counting the number of bits have been received reception signal and a divider for dividing the count value of the error detect pulses by the number of the bits of the received reception signal (as taught by Obuchi). One having ordinary skill in the art would be motivated to do so because Tanaka suggests the generating of a bit error rate [by the bit error rate detector (4)].

Claims 12 and 13:

Tanaka teaches the invention substantially as claimed. Tanaka discloses (figure 1) that a mobile radio communication equipment (10) is constructed with a bit error rate detector (4) and a transmission rate determiner (5). The bit error rate detector (4) detects a bit error rate for regulating the transmission rate on the basis of a frame sync data. The transmission rate determiner sets the initial value of the transmission rate on the basis of the RSSI level from the RSSI detector (2) and determines an optical transmission rate by regulating the initial value on the basis of the bit error rate from the bit error rate detector (4) (figure 1, column 3 lines 17-21 & 33-43).

Tanaka also teaches (figure 2—a flowchart) the bit error rate detector (4) detects bit error rate A of the frame sync data (S105). Then the bit error rate detector (4) ranks the detected bit error rate (S106) by comparing the detected bit error rate A with

predetermined first and second threshold values N and M. Base on the ranking for the bit error rate A, the transmission rate will be set as it is or will be adjusted by increasing or decreasing the transmission rate (column 4 lines 27-59).

Tanaka does not teach the counting a total number of received information units or error number of the received invalid information units or dividing the error number by the total number. Obuchi, however, teaches that a receiver system having counter (14) for counting error detect pulses while another counter (15) for counting the number of bits have been received as a reception signal, a divider (16) for dividing the count value of the counter (14) by that of the counter (15) and providing an output as a bit error rate (figure 2, column 5 line 65-column 6 line 6).

It would have been obvious to one skilled in the art at the time the invention was made to realize that Tanaka's bit error rate detector (4) would have been comprised of a counter for counting error detect pulses, another counter for counting the number of bits have been received reception signal and a divider for dividing the count value of the error detect pulses by the number of the bits of the received reception signal (as taught by Obuchi). One having ordinary skill in the art would be motivated to do so because Tanaka suggests the generating of a bit error rate [by the bit error rate detector (4)].

Claim 15:

Obuchi teaches the radio transmission signal carries 2-bit per symbol by using a modulation technique (column 6 lines 27-31).

Claims 16 & 17:

Tanaka teaches that when a new transmission rate is set, the radio portion (1) sends a signal assigning the newly set transmission rate to the base station (20). In response to the control signal, the base station (20) will send the control signal at the newly set transmission rate. The processing from the step S104 to S111 is repeated until the transmission rate becomes appropriate (column 4 line 65 – column 5 line 4).

Claim 18:

Neither Tanaka nor Obuchi teaches that the method of claim 12 is carried out by means of a computer program. However, it would have been obvious to one skilled in the art at the time the invention was made to realize that the features of Tanaka's mobile radio communication equipment (10) and the features of Obuchi's bit error rate calculation would be programmed into a computer program. One having ordinary skill in the art would be motivated to do so because programming such features (taught by Tanaka and Obuchi) into a computer program/software are well-known in the art.

Claim 14:

This claim is similar to claim 12 with additional limitation of a number of information units is a multiple of $2^n$, with n=0, 1, 2..... Obuchi does teach that the number of the reception signals is a multiple of 2 (figure 2: receiver #1 and receiver #2).

Claim 19:

Claim 19 is rejected for reasons similar to those set forth against claims 12 & 18.

4. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Art rejection on claims 1-20 is made due to an updated search.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine T. Tu whose telephone number is (571)272-3831. The examiner can normally be reached on Mon-Thur. 8:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571)272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christine T. Tu
Primary Examiner
Art Unit 2133

August 18, 2005